

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Pulkkinen et al.	Examiner:	UNKNOWN
Serial No.:	TO BE ASSIGNED	Group Art Unit:	TO BE ASSIGNED
Filed:	March 26, 2001	Docket No.:	796.385USW1
Title:	SYNCHRONIZATION OF TERMINALS IN A RADIO LINK SYSTEM		

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The undersigned hereby certifies that this Transmittal Letter and the paper or fee, as described herein, are being deposited with the United States Postal Service 'Express Mail Post Office To Addressee' service under 37 CFR 1.10 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

By: 

Theresa Jurek

PRELIMINARY AMENDMENT

Box Patent Application  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Please enter the following preliminary amendment into the above-referenced application.

ABSTRACT

Please insert the attached abstract into the application as the last page thereof.

CLAIMS

Please amend claim 7 as shown in Appendix A. A clean copy of the entire claim set is included below. A marked up copy of the amended claims is enclosed in Appendix A.

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1. A method of synchronizing transmission and reception periods of a group of terminals in a fixed radio link system operating in time division duplex mode and in which the group of terminals is located in a hub site, comprising the steps of:

choosing a radio frequency to be used by all terminals in the group;

timing transmit periods of every individual terminal in the group in such a manner that the transmission periods do not overlap with reception periods of the other terminals.

2. A method of synchronizing transmission and reception periods of a group of terminals in a fixed radio link system operating in time division duplex mode and in which the group of terminals is located in a hub site, comprising the steps of:

arranging a common bus;

choosing one terminal from the group as a super master terminal which sends a synchronization signal to the common bus;

choosing the rest of the terminals from the group as master terminals which receive the synchronization signal from the common bus;

timing transmission periods of every individual master terminal in accordance with the synchronization signal received from the common bus in such a manner that the transmission periods overlap neither with reception periods of the other master terminals, nor with those of the super master terminal.

3. A method according to claim 2, further comprising the step of:

adding on the synchronization signal information about the radio frequency used by the super master terminal.

4. A method according to claim 2 , further comprising:  
  
sending synchronization information from the master terminal to the remote terminal at the opposite end of the radio link;  
  
timing transmission and reception periods of the remote terminal in accordance with received synchronization.
5. A method according to claim 3, further comprising the step of  
  
tuning the radio frequency of the transceivers of the master terminals to the frequency announced by the super master terminal via the common bus.
6. A method according to claim 2, in which the group of terminals includes all the terminals in the hub site.
7. (Amended) A method according to claim 2, wherein upon addition of a new terminal in the group, further comprising;  
  
engaging the new terminal with the common bus;  
  
receiving the synchronization signal and information about the radio frequency from the common bus;  
  
carrying out the timing and frequency tuning in the new terminal according to the synchronization signal and information about the radio frequency.
8. A method according to claim 2, wherein upon missing the synchronization signal on the common bus, further comprising:  
  
choosing automatically one of the master terminals as a new super master terminal.
9. A fixed radio link system operating in time division duplex mode comprising:

at least one hub site including a plurality of hub transceivers operating at the same radio frequency;

a plurality of directive and sectorized aerials pointing in different directions, each aerial being connected to the respective transceiver;

wherein transmission periods and reception periods of the hub transceivers are mutually synchronized in such a manner that the transmission periods of any of the hub transceivers do not overlap with reception periods of the other hub transceivers.

10. A fixed radio link system operating in time division duplex mode comprising:

at least one hub site including a number of hub transceivers operating at the same radio frequency;

a number of directive and sectorized aerials pointing in different directions, each aerial being connected to the respective transceiver;

a plurality of remote stations each having at least one remote transceiver communicating with a predetermined hub transceiver through a radio link;

the hub site further comprising:

a common bus to which the hub transceivers are connected;

a super master transceiver which is selected from the hub transceivers and which sends a synchronization signal to the common bus;

master terminals which are the rest of the hub transceivers and which receive the synchronization signal from the common bus;

wherein every individual master terminal sets the timing of transmission periods in accordance with the synchronization signal received from the common bus in such a manner that the transmission periods overlap neither with reception periods of the other master terminals nor with those of the super master terminal.

11. A fixed radio link system according to claim 10, wherein the super master transceiver sends information about the radio frequency used by the super master transceiver to the common bus.

12. A fixed radio link system according to claim 10, wherein the master terminals send synchronization information to the corresponding remote terminals at the opposite ends of the radio links.

13. A fixed radio link system according to claim 12, wherein the remote terminals correct their timings responsive to the received synchronization information.

14. A fixed radio link system according to claim 10, wherein upon addition of a new transceiver to the hub site:

the new transceiver engages itself to the common bus for receiving the synchronization signal therefrom;

in response to said signal carries out timing.

15. A fixed radio link system according to claim 10, wherein in response to disappearance of the synchronization signal from the common bus one of the master transceivers automatically changes into the super master transceiver.

16. A fixed radio link system according to claim 11, wherein the master transceiver turns itself to the radio frequency only when interference caused by external sources is below a predetermined level.

**REMARKS**

The preliminary amendment is made to insert an abstract page into the application and to remove a multiple dependency from the following claim: 7.

Applicant respectfully requests that this preliminary amendment be entered into the record prior to calculation of the filing fee and prior to examination and consideration of the above-identified application.

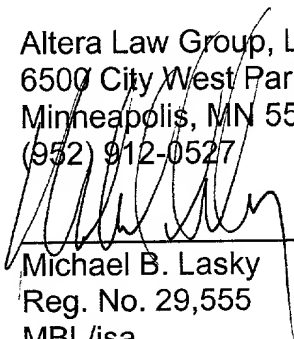
If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's attorney of record, Michael B. Lasky at 952-912-0527.

Respectfully submitted,

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Date: March 26, 2001

By:

  
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